REMARKS

This is a response to the non-final Office Action mailed on June 20, 2011. No fee is due in connection with this response. The Commissioner is hereby authorized to charge any fees that may be required or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 3712036-00702 on the account statement.

Claims 1-14 and 22-25 are pending in the application. Claims 15-21 were previously withdrawn from consideration. In the Office Action, Claims 1-14 and 22-25 are rejected under 35 U.S.C. §103. In response, Claims 1-2 have been amended, and Claims 8-10 and 24-25 have been canceled without disclaimer. The amendments do not add new matter. In view of the amendments and/or for at least the reasons set forth below, Applicants respectfully submit that the rejections should be reconsidered and withdrawn.

In the Office Action, Claims 1-3, 5-6, 8, 10-14 and 22-25 are rejected under 35 U.S.C. §103(a) as being unpatentable over WO 01/22837 to Kuslys et al. ("*Kuslys*") in view of EP 0904784 to Van Hoey-de-Boer et al. ("*Van Hoey-de-Boer*") and U.S. Publication No. 2003/0060445 to Wilson ("*Wilson*"). Applicants respectfully traverse the rejection for at least the reasons set forth below.

Independent Claim 1 has been amended to recite, in part, an infant or follow-on formula in which at least 40% of the proteins are modified sweet whey proteins comprising no caseino-glyco-macropeptide ("CGMP") or reduced CGMP, wherein the proteins are partially hydrolysed and the protein content of the formula is no more than 2 g/100 kcal. The amendments are supported in the specification, for example, at page 2, lines 9-12, and page 4, line 24 to page 5, line 2, and Claim 9.

"One way for a patent applicant to rebut a prima facie case of obviousness is to make a showing of 'unexpected results,' i.e., to show that the claimed invention exhibits some superior property or advantage that a person of ordinary skill in the relevant art would have found surprising or unexpected." *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995). Applicants have surprisingly found that the claimed infant or follow-on formula provides a unique combination of protective nutrients ensuring growth and metabolic patterns similar to those of breastfed infants, with the intention of enabling similar health characteristics to be enjoyed in later childhood and

adulthood. In this regard, the claimed infant or follow-on formula resides, in part, in the discovery that the combination of a protein source containing modified sweet whey proteins in an amount of at least 40% of the proteins and a probiotic leads to certain unexpectedly beneficial effects.

It has long been known that during the months prior to weaning differences in the microflora composition between breast-fed and formula-fed infants are apparent. In full-term infants, breast feeding induces the development of a microflora rich in *Bifidobacterium sp.* Other anaerobes such as *Clostridium sp.* and *Bacteroides sp.* are more rarely isolated, and facultative anaerobes such as *Escherichia sp.* and *Enterococci* are even less numerous. In contrast to breast-fed infants, formula-fed infants are often colonized by a more diverse microbiota including *Clostridium perfringens, Escherichia coli* and *Bacteroides* in addition to *Bilidobacteria*. These differences in the microflora may partly explain the lower incidence of intestinal infection observed in breast-fed infants compared with formula-fed infants.

In contrast to the Examiner's allegation that the applicants have not shown a synergistic effect (see Office Action, page 11), Applicants have clinically demonstrated surprising and unexpected results shown by the previously submitted Declaration under 37 C.F.R. §1.132 ("*Declaration*" submitted with the response to the Office Action dated November 9, 2010). Specifically, the *Declaration* demonstrates that Applicants have surprisingly found that compositions of the present claims provide a unique combination of protective nutrients with a view to ensuring growth and metabolic patterns similar to those of breast-fed infants. The present claims aim at achieving such a result by adapting the formula in such a way that the physiological effect of consuming the improved formula is closer to the physiological effect of consuming breast milk. As supported by the *Declaration*, Applicants have found that the combination of a protein source containing modified sweet whey protein ("MSW") in an amount of at least 40% of the proteins and a probiotic leads to certain unexpected and surprising beneficial effects.

Attached to the *Declaration* were the following documents: i) the poster presented at the 2005 meeting of NASPGHAN; and ii) the Abstract submitted to PAS 2008. The poster presented at the 2005 meeting of NASPGHAN illustrates the fecal *Bifidobacteria* counts of

infants fed breast milk compared to those of infants fed a formula described as NAN, which is an infant formula produced by an affiliate of Applicants. The NAN formula has a protein source that is 60% MSW. As illustrated, it can be seen that the amounts of *Bifidobacteria* in the stools of the formula fed to infants was comparable to that for the breast fed infants.

The Abstract submitted to PAS 2008 describes the results of a separate clinical trial in which the fecal counts of infants fed a conventional infant formula (i.e., without MSW) is compared to that of infants fed the NAN formula, and with that of infants fed the NAN formula supplemented with a strain of *Bifidobacterium longum*. It is shown that the amount of *Bifidobacteria* in the stools of the infants fed the NAN formulas was significantly higher than the conventional formula. Further analysis from this study has established that an even better result was obtained with the formula containing MSW and *B. longum* as regards the important criterion of colonization with *Clostridia sp*. Specifically, analysis of the stools showed that 97% of the infants fed the conventional formula were colonized with *Clostridia* compared with 93% of those fed unsupplemented NAN and only 86% of those fed NAN supplemented with *B. longum*. This is a significant reduction in the level of colonization with *Clostridia sp*. which, as noted above, is regarded as undesirable constituents of the infant intestinal microflora.

The effects of administering to infants the NAN compositions as compared to the NAN formulations with probiotics are further detailed in Exhibit 3 of the *Declaration*. The publication of Exhibit 3 describes a prospective, controlled, double-blind, randomized trial performed on infants healthy, full-term infants that were exclusively fed a control formula or study formulas containing certain bacteria. The control formula of the trial was the unsupplemented formula known as NAN, as described above. The study formula groups included various combinations of probiotics and synbiotics. The objective of the trial was to evaluate infant formulas containing probiotics and synbiotics for safety and tolerance. Safety and tolerance were assessed based on weight gain during the treatment period (primary outcome), as well as recumbent length, head circumference, digestive tolerance, and adverse events (secondary outcomes), which were evaluated at 2, 4, 8, 12, 16 and 52 weeks of age.

As detailed in the *Declaration*, two hundred eighty-four infants were enrolled in the randomized trial of Exhibit 3. During the treatment period, difference in mean weight gain between control and study formula groups in both the intention-to-treat and per protocol

populations were within the predefined equivalence boundaries of ±3.9 g/d, indicating equivalent weight gain. Secondary outcomes did not show significant differences between groups during the treatment period. Interestingly, however, whereas during the treatment period there were no differences in the frequency of symptoms of gastrointestinal intolerance, diarrhea, and other adverse events between infants of any of the study formula groups and those in the control formula group, at the 1-year follow-up, infants in the group that received the formulas containing probiotics has significantly few incidents of diarrhea. Surprisingly, the decrease in the incidence of diarrhea was observed several months after infants had stopped taking the probiotic-supplemented formula.

In contrast, *Kuslys, Van Hoey-de-Boer,* and *Wilson* alone or in combination fail to disclose or suggest each and every element of independent Claim 1. Specifically, *Kuslys, Van Hoey-de-Boer,* and *Wilson* alone or in combination fail to disclose or suggest an infant or follow-on formula comprising a probiotic and at least 40% of the proteins that are modified sweet whey proteins comprising no caseino-glyco-macropeptide ("CGMP") or reduced CGMP as required by independent Claim 1.

Moreover, Applicants respectfully submit that the skilled artisan would have no reason to combine *Kuslys, Van Hoey-de-Boer,* and *Wilson* to arrive at the present claims because the cited references are directed to unrelated products that have completely different objectives. For example, *Kuslys* is entirely directed to a composition having casein and whey protein that may be used as a replacement for human milk, while maintaining a similar protein concentration. See, *Kuslys*, page 2, lines 1-11. *Van Hoey-de-Boer* is entirely directed to a nutritional preparation for use in treating disorders of the gastrointestinal tract without the need of determining before hand which microorganism is responsible for the disorder. *Van Hoey-de-Boer* provides a list of potentially helpful bacteria and optimum conditions for the growth of same. See, *Van Hoey-de-Boer,* columns 1-2, paragraphs 7-11. *Wilson* is entirely directed to the use of a composition having a synergistic prebiotic comprising oligofructose and sialyllactose. The composition may be used to inhibit the binding of pathogenic microorganisms to human tissue. See, *Wilson,* Abstract; page 1, paragraph 10. As such, the cited references are directed to entirely distinguishable compositions that are used for entirely distinguishable purposes.

In the Office Action, the Examiner alleges that Applicants' evidence is not commensurate with the scope of the claims and/or does not compare the closest prior art of record. See Office Action, page 11. Applicants respectfully disagree and submit that the all of the experimental formulations having synergistic results feature an infant or follow-on formula comprising a probiotic and at least 40% of the proteins that are modified sweet whey proteins comprising no caseino-glyco-macropeptide ("CGMP") or reduced CGMP, which are clearly within the scope of the claims. In addition, Applicants respectfully submit that the control formulas in the experiments have a formulation similar to that disclosed by *Kuslys*, which does not include any probiotics.

The Examiner further alleges that Exhibit 2 of the Declaration shows improved health benefits when using probiotics added to infant formula containing only 30% casein, which is below the instantly claimed range of at least 40% casein. See Office Action, page 11. Applicants respectfully submit that the NAN formulas had a 30/70 casein/whey ratio (compared to 70/30 for the control), which is within the scope of the claims. It was shown that the amount of *Bifidobacteria* (preferred microbial) in the stools of the infants fed the NAN formulas was significantly higher than the conventional formula. Further analysis from this study established that an even better result was obtained with the formula containing MSW and *B. longum* with respect to the colonization of *Clostridia sp.*

Finally, the Examiner alleges that while evidence indicates health promoting action when probiotics are added to infant formulas, this result does not demonstrate surprising and unexpected effects as probiotics were known to generate *Bifidobacterium* to provide health benefits as shown by *Van Hoey-de-Boer* and *Ishibashi*. See Office Action, page 12. Applicants respectfully submit that generating *Bifidobacterium* is not the only benefit from the claimed formulations. As supported by the *Declaration* and discussed in the specification, the claimed compositions also provide for a better protein utilization, a plasma amino acid pattern close to that of breast-fed infants, and adequate growth rates. The improved amino acid profile of the present compositions results in better protein utilization, as is shown by the higher percentage of nitrogen retention found in infants fed with a formula according to the present claims as compared with infants fed a regular whey-adapted formula. This is clearly illustrated by Table 5 in the specification. The claimed compositions, as supported by the *Declaration*, further provide

a protein content that meets the needs of normal term infants during the first months of life without excessive energy intake or increase body mass index, present a reduced load on immature organs of infants, and improve stool consistency and reduce the frequency of hard stools.

For at least the reasons discussed above, *Kuslys*, *Van Hoey-de-Boer,* and *Wilson* fail to disclose or suggest each and every element of independent Claim 1. Moreover, the cited references fail to even recognize the advantages, unexpected benefits and/or properties of an infant or follow-on formula in accordance with the present claims. As a result, Applicants respectfully submit that independent Claim 1, along with any claims that depend from Claim 1, are novel, nonobvious and distinguishable from the cited references.

Accordingly, Applicants respectfully request that the obviousness rejection in view of *Kuslys*, *Van Hoey-de-Boer,* and *Wilson* be reconsidered and the rejection be withdrawn.

Claims 4 and 7 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Kuslys* in view of *Van Hoey-de-Boer* and *Wilson*, further in view of the publication to Holm ("*Holm*") and the publication to Ishibashi et al. ("*Ishibashi*"). Claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Kuslys* in view of *Van Hoey-de-Boer* and *Wilson*, further in view of EP 1048226 to Kratky et al. ("*Kratky*"). Applicants respectfully submit that the patentability of Claim 1 as previously discussed renders moot the obviousness rejection of Claims 4, 7 and 9 that depend from Claim 1. In this regard, the cited art fails to teach or suggest the elements of Claims 4, 7 and 9 in combination with the novel elements of Claim 1.

In the Office Action, Claims 1-3, 5-6, 9-14 and 22-25 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Kratky* in view of *Van Hoey-de-Boer* and *Wilson*. Applicants respectfully traverse the rejection for at least the reasons set forth below.

Kratky, *Van Hoey-de-Boer,* and *Wilson* alone or in combination fail to disclose or suggest each and every element of independent Claim 1. Specifically, *Kuslys*, *Van Hoey-de-Boer,* and *Wilson* alone or in combination fail to disclose or suggest an infant or follow-on formula comprising a probiotic and at least 40% of the proteins that are modified sweet whey proteins comprising no caseino-glyco-macropeptide ("CGMP") or reduced CGMP as required by independent Claim 1.

Moreover, Applicants respectfully submit that the skilled artisan would have no reason to combine *Kratky*, *Van Hoey-de-Boer,* and *Wilson* to arrive at the present claims because the cited references are directed to unrelated products that have completely different objectives. For example, *Kratky* is entirely directed to a composition having whey protein that may be used as a replacement for human milk, while maintaining a similar protein concentration. See, *Kratky*, page 2, paragraphs 2-5. *Van Hoey-de-Boer* is entirely directed to a nutritional preparation for use in treating disorders of the gastrointestinal tract without the need of determining before hand which microorganism is responsible for the disorder. *Van Hoey-de-Boer* provides a list of potentially helpful bacteria and optimum conditions for the growth of same. See, *Van Hoey-de-Boer,* columns 1-2, paragraphs 7-11. *Wilson* is entirely directed to the use of a composition having a synergistic prebiotic comprising oligofructose and sialyllactose. The composition may be used to inhibit the binding of pathogenic microorganisms to human tissue. See, *Wilson*, Abstract; page 1, paragraph 10. As such, the cited references are directed to entirely distinguishable compositions that are used for entirely distinguishable purposes.

For at least the reasons discussed above, *Kratky*, *Van Hoey-de-Boer* and *Wilson* fail to disclose or suggest each and every element of independent Claim 1. Moreover, the cited references fail to even recognize the advantages, unexpected benefits and/or properties of an infant or follow-on formula in accordance with the present claims. As a result, Applicants respectfully submit that independent Claim 1, along with any claims that depend from Claim 1, are novel, nonobvious and distinguishable from the cited references.

Accordingly, Applicants respectfully request that the obviousness rejection in view of *Kratky*, *Van Hoey-de-Boer* and *Wilson* be reconsidered and the rejection be withdrawn.

In the Office Action, Claims 4 and 7 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Kratky* in view of *Van Hoey-de-Boer* and *Wilson,* further in view of the combination of *Holm* and *Ishibashi*. Applicants respectfully submit that the patentability of Claim 1 as previously discussed renders moot the obviousness rejection of Claims 4, 7 and 9 that depend from Claim 1. In this regard, the cited art fails to teach or suggest the elements of Claims 4, 7 and 9 in combination with the novel elements of Claim 1.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same. In the event there

remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

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